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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,591	12/21/2004	Jonathan Sweat	3165-111	2640
6449 7590 06/03/2008 ROTHWELL, FIGG, ERNST & MANBECK, P.C. 1425 K STREET, N.W. SUITE 800 WASHINGTON, DC 20005				
EXAMINER				
HOLT, ANDRIAE M				
ART UNIT		PAPER NUMBER		
1616				
NOTIFICATION DATE		DELIVERY MODE		
06/03/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

### Office Action Summary

**Application No.**

10/518,591

**Applicant(s)**

SWEAT ET AL.

**Examiner**

Andriae M. Holt

**Art Unit**

1616

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29-32, 38 and 39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-32, 38 and 39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI-108)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office Action is in response to the amendment filed on February 25, 2008. Claims 29-32 and 38-39 are pending in the application. Claims 33-37 have been cancelled. Claim 38 has been amended. Claim 39 has been added.

#### **Status of Claims**

The objection of the specification for informalities has been overcome by amendment of the specification to correct misspellings. The rejection **is withdrawn**.

The rejection of claim 38 under 35 U.S.C. 102(b) as being anticipated by Gabard et al. (EP 0,953,285) has been overcome by amending the claim to delete the term "herbicide" and add the term "dinitroaniline compound". The rejection **is withdrawn**.

The rejection of claims 33-37 under 35 U.S.C. 103(a) as being unpatentable over Benoff et al. (US 5,705,174) in view of Soper (US 3,257,190) **is moot** due to the cancellation of the claims.

The rejection of claims 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (US 5,665,674), Lo (US 5,310,721) and Benoff (US 5,705,174) in combination **is maintained**.

#### ***Response to Arguments***

Applicant's arguments filed February 25, 2008 have been fully considered but they are not persuasive. Applicant argues that the purpose of the invention is to reduce crop damage caused by dinitroaniline formulations, not to enhance the activity of different classes of herbicides. In response to applicant's argument that the references

fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., reduction in crop damage caused by dinitroaniline formulations) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Independent claim 29 is a method for preemergence control of undesirable plant species comprising applying as a tank mix an effective amount of a microcapsule composition comprising a dinitroaniline compound with an herbicide formulation comprising diflufenzopyr or dicamba or diflufenzopyr and dicamba. The claim does not recite the formulation is used to reduce crop damage caused by dinitroaniline formulations.

Applicant argues that one skilled in the art would not modify Anderson in view of Lo and Benoff to remove the auxin transport inhibitor since Anderson teaches that the auxin transport inhibitor is essential in the invention. In response to applicant's argument, the auxin transport inhibitor, as noted on page 7 of the office action, is Diflufenzopyr, an essential component of the instant invention. Anderson specifically teaches in col. 7, lines 9-11, 2-acetylnicotinic acid 4-(3, 5- difluorophenyl) semicarbazone (diflufenzopyr), used in combination with dicamba. Anderson teaches that the auxin transport inhibitor enhances the activity of other herbicides when used in combination. These herbicides include dinitroanilines such as trifluralin and pendimethalin, as well as, dicamba. Applicant also uses the term "comprising" in the claims which does not exclude auxin transport inhibitors from the formulation. Thus, one

skilled in the art would be have been motivated to make this combination as Anderson and the instant claims indicate these compounds are an essential component of the formulation to combat or control undesirable plant growth as claimed in the instant invention.

Applicant argues that one skilled in the art would not look to Anderson, Lo and Benoff to find a way to reduce crop damage caused by dinitroanilines as none of the references suggest methods of reducing crop damage. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., reduction in crop damage caused by dinitroaniline formulations) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Independent claim 29 is a method for preemergence control of undesirable plant species comprising applying as a tank mix an effective amount of a microcapsule composition comprising a dinitroaniline compound with a herbicide formulation comprising diflufenzopyr or dicamba or diflufenzopyr and dicamba. The claim does not recite the formulation is used to reduce crop damage caused by dinitroaniline formulations. However, Benoff does teach one of the problems associated with the application of certain herbicidal compositions is that staining of non-target areas may occur. Benoff teaches that in particular certain dinitroaniline herbicides such as pendimethalin have caused undesirable staining. Benoff further teaches it has been found that staining problems associated with the use of commercially available

formulations of herbicides are significantly reduced if not eliminated altogether when the herbicide is applied in the form of microcapsules (col. 5, lines 37-49).

**New Grounds of Rejection Necessitated by Amendment of February 25, 2008**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 39 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The new matter introduced, "median diameter sufficient to reduce crop damage due to said dinitroaniline compound" lacks written description as originally filed. While the specification does provide in the description microcapsules prepared having a median diameter of about 3 micrometers to 50 micrometers and more preferably about 3 micrometers to 10 micrometers, the specification does not contemplate the correlation of the diameter with crop damage effect.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 39 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The meaning of the phrase "median diameter sufficient to reduce crop damage" is unclear. The examiner is unable to interpret the clear meaning of "sufficient to reduce crop damage". The specification discloses a diameter of about 3 micrometers to 50 micrometers and more preferably about 3 micrometers to 10 micrometers; however, applicant's specification does not define "what ranges" are sufficient to reduce crop damage.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 38 is rejected under 35 U.S.C. 102(b) as being anticipated by Benoff et al. (US 5,705,174).

Benoff et al. disclose a process for the preparation of microcapsule compositions, methods for using those microcapsule compositions containing those microcapsule compositions and microcapsules prepared by the process of the invention (Abstract). Benoff et al. disclose that the process of the invention is particularly suitable for the preparation of microcapsules containing herbicidal compounds and insecticidal

compounds (col. 3, lines 34-36). Benoff et al. disclose herbicidal compounds especially suitable for use in the invention include dinitroaniline compounds such as pendimethalin and trifluralin (col. 3, lines 36-39) (dinitroaniline compound, pendimethalin or trifluralin). Benoff et al. disclose the microcapsules are used to control undesirable plant species by applying to the foliage of the plants or to the soil or water containing seeds a herbicidally effective amount of a microencapsulated herbicide (col. 5, lines 6-11).

Benoff et al. disclose one of the problems associated with the application of certain herbicidal compositions is that staining of non-target areas may occur. Benoff et al. disclose that in particular certain dinitroaniline herbicides such as pendimethalin have caused undesirable staining. Benoff et al. further disclose it has been found that staining problems associated with the use of commercially available formulations of herbicides are significantly reduced if not eliminated altogether when the herbicide is applied in the form of microcapsules (col. 5, lines 37-49) (safening from effects of dinitroaniline compound). Benoff et al. meet all the limitations of the claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 29-32 and 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (US 5,665,674) in view of Benoff et al. (US 5,705,174).

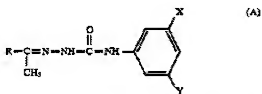
#### **Applicant's Invention**

Applicant claims a method of inhibiting the growth of an undesired plant by contacting the plant with a herbicidally effective amount of a microcapsule composition. The microcapsule composition includes a dinitroaniline compound and the median diameter of the capsule from 3 micrometers to 10 micrometers. The microcapsule composition is effective against crabgrass. Applicant also claims a method of reducing crop damage caused by the dinitroaniline compound.

**Determination of the scope of the content of the prior art  
(MPEP 2141.01)**

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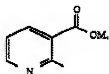
Anderson et al. teach the use of auxin transport inhibitors, herbicidal semicarbazones, as potentiators or enhancers of herbicides, as well as co-application of such auxin transport inhibitors and herbicides, compositions containing at least one auxin transport inhibitor in combination with at least one herbicide and use of these in combating or controlling undesired plant growth and in plant growth regulation (col. 1, lines 13-19). Anderson et al. teach especially preferred auxin transport inhibitors are compounds of Formula A:



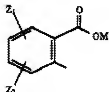
wherein

X and Y represent independently, hydrogen, fluorine or chlorine, and

R is the group



or



wherein  $Z_1$  and  $Z_2$  are independently hydrogen, fluorine or chlorine and M is hydrogen, or a salt forming moiety e.g. an alkali metal cation or an optionally substituted ammonium cation.

Diflufenzopyr, herbicide component in claim 39 of the instant invention is an auxin transport inhibitor semicarbazone, as evidenced by the Corn and Soybean Herbicide Chart, page 2 and is also a Compound according to Formula A as evidenced by Compendium of Pesticide Common Names, see Structure. Diflufenzopyr and dicamba, herbicide components in claim 39 of the instant invention, are the components of *Distinct*, also evidenced by the Corn and Soybean Herbicide Chart, page 2, col. 2.

Anderson et al. further teach co-application results in herbicidal activity, which is significantly superior to the additive effectiveness of the individual active substance (col. 2, lines 42-44). Anderson et al. teach co-application is understood to be concurrent, or immediately sequential application (e.g. within 24 hours), application as a tank mix or applications of fixed combination premixes (col. 2, lines 51-54). Anderson et al. further teach the preferred modes of application include tank mix prepared by adding an auxin transport inhibitor to a tank containing the other herbicide partner and an appropriate surfactant (col. 5, lines 43-46) (claims 29 and 39, instant invention, applying as a tank mix).

Anderson et al. teach that herbicides which may be potentiated by use of auxin transport inhibitors, especially compounds of Formula A include: growth regulators including benzoic acids, e.g. dicamba (col. 2, lines 55-62) and growth inhibitors including dinitroanilines e.g. trifluralin and pendimethalin (col. 3, lines 31-33) (claims 29 and 39, Instant invention, dinitroaniline compound with a herbicide formulation comprising diflufenzopyr or dicamba or diflufenzopyr and dicamba and specific dinitroaniline compound pendimethalin or trifluralin). Anderson et al. teach the suitability

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of specific co-applications for pre- or post-emergent uses and selectivity will depend on the partners chosen (col. 4, lines 48-50) (claims 29 and 39, a method for preemergence control of undesirable plant species, instant invention).

**Ascertainment of the difference between the prior art and the claims  
(MPEP 2141.02)**

Anderson et al. do not teach microcapsule compositions or the reducing crop damage due to the dinitroaniline compound. It is for this reason Benoff et al. is joined.

The disclosure of Benoff et al. has been delineated above.

**Finding a prima facie obviousness  
Rationale and Motivation (MPEP 2142-2143)**

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Anderson et al. and Benoff et al. and use the dinitroaniline compositions in a microcapsule to reduce crop damage caused by the dinitroaniline compounds. Anderson et al. teach it is within the skill of one skilled in the art to combine diflufenzopyr with dinitroaniline and other herbicidal compounds to control the growth of undesirable plants. Thus, in view of *In re Kerkhoven*, 205 USPQ 1069 (C.C.P.A. 1980), it is prima facie obvious to combine two or three compositions each of which is taught by prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose. The idea of combining them flows logically from their having been individually taught in prior art, thus claims that requires no more than mixing together two or three conventional herbicides set

forth prima facie obvious subject matter. Benoff et al. teach that microcapsule formulations of dinitroaniline compounds have the advantage of reducing or eliminating the staining of desired plants caused by conventional formulations of dinitroaniline compounds.

One of ordinary skill in the art would have been motivated to use the microcapsule formulations as taught by Benoff et al. because microcapsule formulations reduce or eliminate the phytotoxic effects caused by dinitroaniline compounds while effectively controlling weeds.

Given the state of the art as evidenced by the teachings of the cited references, and absent any evidence to the contrary, there would have been a reasonable expectation of success in combining the teachings of the cited references to formulate a method of controlling undesirable plants that would combine herbicides to exploit the strong properties of each herbicide while minimizing any weakness or undesirable properties. By co-formulating the herbicides in a microcapsule composition, one would be able to produce an herbicide that would not only increase the spectrum of annual weeds controlled, but reduce the phytotoxicity to seeds and crops, improve the selectivity between the targeted undesired plants and the crops and improve the handling qualities of formulations.

None of the claims are allowed.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andriae M. Holt whose telephone number is (571)272-9328. The examiner can normally be reached on 7:00 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richter Johann can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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